

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the Application.

1 to 25. (Canceled)

26. (Currently Amended) A method for repairing a defect area at the gradient junction of cartilaginous tissue and bony tissue, comprising the steps of:

providing a composite scaffold with a porous ceramic phase including a discrete ceramic layer, a porous polymer phase including a discrete polymer layer, the polymer phase attached to the ceramic phase at an interphase region where the polymer phase is at least partially infused into the ceramic phase mechanically interlocking the ceramic and polymer phases, with the porosity of the ceramic and polymer phases communicating, the interphase region being situated between the discrete ceramic layer of the porous ceramic phase and the discrete polymer layer of the porous polymer phase;

boring a receptacle space in the gradient junction at the site of the injury to receive the scaffold, the gradient junction being that of articular cartilage; and

placing and securing the scaffold in the receptacle space with the ceramic phase adjacent to the bony tissue and the polymer phase adjacent to the cartilaginous tissue.

27. (Currently Amended) A method for repairing a defect area at the gradient junction of cartilaginous tissue and bony tissue, comprising the steps of:

providing a composite scaffold with a porous ceramic phase including a discrete ceramic layer, a porous polymer phase including a discrete polymer layer, the polymer phase attached to the ceramic phase at an interphase region where the polymer phase is at least partially infused into the ceramic phase mechanically interlocking the ceramic and polymer phases, with the porosity of the ceramic and polymer phases communicating, the interphase region being situated between the discrete ceramic layer of the porous ceramic phase and the discrete polymer layer of the porous polymer phase;

boring a receptacle space in the gradient junction at the site of the injury to receive the scaffold, the gradient junction being that of a spinal disc; and

placing and securing the scaffold in the receptacle space with the ceramic phase adjacent to the bony tissue and the polymer phase adjacent to the cartilaginous tissue.

28. (Currently Amended) A method for repairing a defect area at the gradient junction of cartilaginous tissue and bony tissue, comprising the steps of:

providing a composite scaffold with a porous ceramic phase including a discrete ceramic layer, a porous polymer phase including a discrete polymer layer, the polymer phase attached to the ceramic phase at an interphase region where the polymer phase is at least partially infused into the ceramic phase mechanically interlocking the ceramic and polymer phases, with the porosity of the ceramic and

polymer phases communicating, the interphase region being situated between the discrete ceramic layer of the porous ceramic phase and the discrete polymer layer of the porous polymer phase;

boring a receptacle space in the gradient junction at the site of the injury to receive the scaffold, the gradient junction being that of the meniscus; and

placing and securing the scaffold in the receptacle space with the ceramic phase adjacent to the bony tissue and the polymer phase adjacent to the cartilaginous tissue.

29. (Previously Presented) The method of Claim 26, wherein the polymer phase comprises a polymer foam.

30. (Previously Presented) The method of Claim 26, wherein the polymer phase is made from foaming by lyophilization.

31. (Previously Presented) The method of Claim 27, wherein the polymer phase is made from foaming by lyophilization.

32. (Previously Presented) The method of Claim 28, wherein the polymer phase is made from foaming by lyophilization.

33. (New) The method of Claim 26, wherein the discrete ceramic layer of the porous ceramic phase is positioned on the top of the interphase region, and wherein the discrete polymer layer of the porous polymer phase is positioned on the bottom of the

within the support structure of the Vacanti et al. reference and is not arranged in any particular manner, the scaffold of the present invention includes a discrete ceramic layer, a discrete polymer layer, and an interphase region situated between the discrete ceramic layer of the ceramic phase and the discrete polymer layer of the polymer phase, as recited in amended Claim 26.

Further, the support structure disclosed in the Vacanti et al. reference may be a ceramic structure and a skeleton of struts, such as a network of ceramic or plastic rods. However, there is no disclosure or suggestion in the Vacanti et al. reference of the specific interaction between a polymer phase and a ceramic phase, much less an **interphase region** where the polymer phase is at least partially **infused** into the ceramic phase mechanically **interlocking** the ceramic and polymer phases, with the porosity of the ceramic and polymer phases communicating, as recited in amended Claim 26. In view of the distinctions discussed above, it is respectfully submitted that the Vacanti et al. reference fails to disclose or suggest the method recited in amended Claim 26.

The Wise et al. reference was only cited against dependent Claims 30-32, and is not believed to be relevant to the patentability of the method recited in amended Claim 26. For instance, the Wise et al. reference relates to a method for making an implantable bioerodible material. The Wise reference does not disclose or suggest a method for repairing a defect area, as recited in amended Claim 26. Applicants' attorney respectfully submits that the Wise et al. reference, whether considered

individually or in combination with the Vacanti et al. reference, does not anticipate or make obvious the present invention as recited in amended Claim 26.

In the foregoing circumstances, amended Claim 26 is believed to be in condition for allowance. Because Claims 29 and 30 and new Claims 33 and 34 depend, either directly or indirectly, from amended Claim 26, they are also believed to be in condition for allowance. Nevertheless, applicants' attorney notes that the dependent claims recite additional novel features of the present invention. For instance, new Claim 34 requires that the discrete polymer layer of the porous polymer phase is positioned on only one side of the interphase region. None of the references disclose or suggest a discrete polymer layer of the porous polymer phase positioned on only one side of the interphase region.

Amended independent method Claims 27 and 28 are very similar in scope to that of amended independent method Claim 26. More particularly, both amended Claims 26 and 27 include the step of providing a composite scaffold with a porous ceramic phase including a discrete ceramic layer, a porous polymer phase including a discrete polymer layer, the polymer phase attached to the ceramic phase at an interphase region where the polymer phase is at least partially infused into the ceramic phase mechanically interlocking the ceramic and polymer phases, with the porosity of the ceramic and polymer phases communicating. As further recited in amended Claims 27 and 28, the interphase region is situated between the discrete ceramic layer of the

ceramic phase and the discrete polymer layer of the polymer phase. In such circumstances, amended Claims 27 and 28 are patentably distinguishable over the Vacanti et al. reference for the reasons discussed above. Accordingly, independent Claims 27 and 28 are believed to be in condition for allowance. Claims 31, 35, and 36 depend, either directly or indirectly, from amended Claim 27, while Claims 32, 37, and 38 depend, either directly or indirectly, from amended Claim 28. Accordingly, Claims 31, 32, and 35-38 are also believed to be in condition for allowance.

Applicants' attorney notes that the submittal of this Amendment should not be construed as an admission that the Vacanti et al. reference constitutes statutory prior art with respect to the present invention. More particularly, applicants' attorney notes that the Vacanti et al. reference did not issue more than one year before the filing date of the present application and, as a result, it does not constitute statutory prior art under 35 U.S.C. 102(b).

In view of the foregoing amendments and remarks, applicants' attorney respectfully requests reexamination and allowance of pending Claims 26-32, and examination and allowance of new Claims 33-38. If such action cannot be taken, the Examiner is cordially invited to place a telephone call to applicants' attorney in order that any outstanding issue may be resolved without the issuance of a further Office Action.

interphase region.

34. (New) The method of Claim 33, wherein the discrete polymer layer of the porous polymer phase is positioned on only one side of the interphase region.

35. (New) The method of Claim 27, wherein the discrete ceramic layer of the porous ceramic phase is positioned on the top of the interphase region, and wherein the discrete polymer layer of the porous polymer phase is positioned on the bottom of the interphase region.

36. (New) The method of Claim 35, wherein the discrete polymer layer of the porous polymer phase is positioned on only one side of the interphase region.

37. (New) The method of Claim 28, wherein the discrete ceramic layer of the porous ceramic phase is positioned on the top of the interphase region, and wherein the discrete polymer layer of the porous polymer phase is positioned on the bottom of the interphase region.

38. (New) The method of Claim 37, wherein the discrete polymer layer of the porous polymer phase is positioned on only one side of the interphase region.